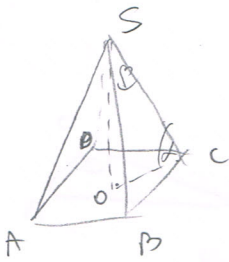


19  
(265)

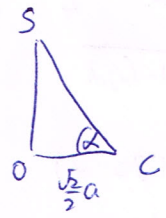
(1c)



א - הסימון של הסימון  
 פיק אסימון הסימון הסימון  
 OC הסימון הסימון הסימון הסימון

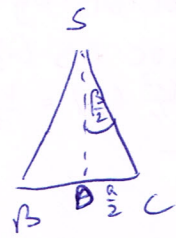
$$\cos \alpha = \frac{OC}{SC} = \frac{\frac{\sqrt{2}a}{2}}{SC}$$

$$SC = \frac{\sqrt{2}a}{2 \cos \alpha}$$



OSC הסימון הסימון

$$\sin \frac{\beta}{2} = \frac{OC}{SC} = \frac{\frac{\sqrt{2}a}{2}}{\frac{\sqrt{2}a}{2 \cos \alpha}} = \frac{a}{\sqrt{2}a} = \frac{\cos \alpha}{\sqrt{2}}$$



הסימון הסימון

$$\boxed{\sqrt{2} \sin \frac{\beta}{2} = \cos \alpha}$$

$$\sqrt{2} \sin \frac{\beta}{2} = \cos \beta = (1 - 2 \sin^2 \frac{\beta}{2}) \quad : \alpha = \beta \quad \text{הסימון הסימון}$$

$$2 \sin^2 \frac{\beta}{2} + \sqrt{2} \sin \frac{\beta}{2} - 1 = 0$$

הסימון הסימון

$$\sin \frac{\beta}{2} = 0.43 \rightarrow \boxed{\beta = 51.82^\circ}$$

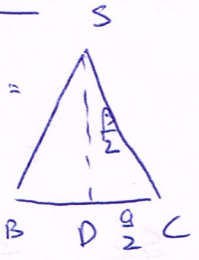
$$\sin \frac{\beta}{2} = -1.14$$

(2)

הסימון הסימון הסימון הסימון הסימון הסימון הסימון הסימון

$$2R = \frac{BC}{\sin \beta} = \frac{a}{\sin \beta} \rightarrow \boxed{\frac{a}{\sqrt{2}} = 2 \sin \beta} \quad (*)$$

$$SD = \sqrt{SC^2 - DC^2} = \sqrt{\frac{2a^2}{4 \cos^2 \alpha} - \frac{a^2}{4}} = \sqrt{\frac{a^2}{4} \left( \frac{2}{\cos^2 \alpha} - 1 \right)}$$

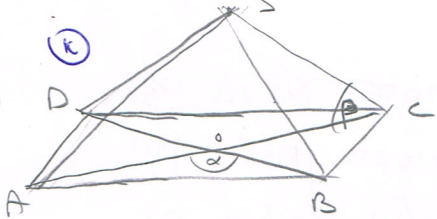


$$SD = \frac{a}{2} \sqrt{\frac{2 - \cos^2 \alpha}{\cos^2 \alpha}}$$

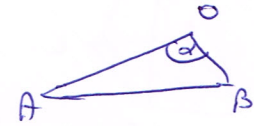
$$\cos \frac{\beta}{2} = \frac{SD}{SC} = \frac{\frac{a}{2} \sqrt{\frac{2 - \cos^2 \alpha}{\cos^2 \alpha}}}{\frac{a}{2 \cos \alpha}} = \frac{\sqrt{2 - \cos^2 \alpha}}{\cos \alpha} = \sqrt{\frac{2 - \cos^2 \alpha}{2}}$$

$$(*) \left[ \frac{a}{R} = 2 \sin \beta = 2 \left( 2 \sin \frac{\beta}{2} \cos \frac{\beta}{2} \right) = 4 \cdot \frac{\cos \alpha}{\sqrt{2}} \cdot \sqrt{\frac{2 - \cos^2 \alpha}{2}} = \underline{\underline{2 \cos \alpha \sqrt{2 - \cos^2 \alpha}}} \right]$$

-20  
(265)



$OB = AO = \frac{1}{2} AC = \frac{k}{2}$   
 პროექცია ცენტრისად



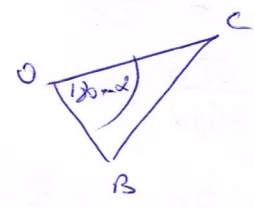
$$AB^2 = AO^2 + BO^2 - 2AO \cdot BO \cdot \cos \alpha = \frac{k^2}{4} + \frac{k^2}{4} - 2 \frac{k^2}{4} \cos \alpha$$

$$AB = \sqrt{\frac{k^2}{2} - \frac{k^2}{2} \cos \alpha} = \frac{k}{\sqrt{2}} \sqrt{1 - \cos \alpha}$$

$$BC^2 = OC^2 + OB^2 - 2OC \cdot OB \cdot \cos(180 - \alpha)$$

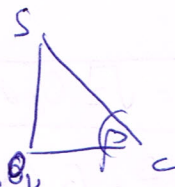
$$= OC^2 + OB^2 + 2OC \cdot OB \cdot \cos \alpha$$

$$= \frac{k^2}{4} + \frac{k^2}{4} + 2 \frac{k^2}{4} \cos \alpha = \frac{k^2}{2} + \frac{k^2}{2} \cos \alpha$$



$$BC = \frac{k}{\sqrt{2}} \sqrt{1 + \cos \alpha}$$

$$\tan \beta = \frac{SO}{OC} = \frac{SO}{0.5k} \rightarrow SO = 0.5k \tan \beta$$



$$V_{SABCD} = \frac{AB \cdot BC \cdot SO}{3} = \frac{\frac{k}{\sqrt{2}} \sqrt{1 - \cos \alpha} \cdot \frac{k}{\sqrt{2}} \sqrt{1 + \cos \alpha} \cdot 0.5k \tan \beta}{3}$$

$$= \frac{k^3}{8} \sqrt{1 - \cos^2 \alpha} \cdot 0.5k \tan \beta = \frac{k^3}{12} \sin \alpha \tan \beta$$

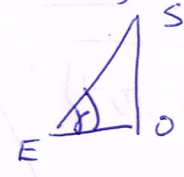
$$\textcircled{3} \quad \frac{k^3}{8} = \frac{k^3}{12} \sin \alpha \tan \alpha \rightarrow \frac{12}{8} = \sin \alpha \cdot \frac{\sin \alpha}{\cos \alpha} = \frac{\sin^2 \alpha}{\cos \alpha} = \frac{1 - \cos^2 \alpha}{\cos \alpha}$$

$$12 \cos \alpha = 8 - 8 \cos^2 \alpha \rightarrow 8 \cos^2 \alpha + 12 \cos \alpha - 8 = 0$$

$$2 \cos^2 \alpha + 3 \cos \alpha - 2 = 0$$

~~$\cos \alpha = -2$~~ ,  $\cos \alpha = \frac{1}{2}$   
 $\alpha = 60^\circ$

$\textcircled{4}$   $\Delta SEC$  აქ  $EC$  არის სიმაღლე  $SO$  და  $EO$  არის  $SO$  (AB-ის ნახევარი E)



$$EO = \frac{1}{2} BC = \frac{k}{2\sqrt{2}} \sqrt{1 + \cos \alpha}$$

$$SO = 0.5k \tan \beta$$

$$\tan \gamma = \frac{EO}{SO} = \frac{\frac{k}{2\sqrt{2}} \sqrt{1 + \cos \alpha}}{0.5k \tan \beta} = \frac{\sqrt{1 + \cos \alpha}}{\sqrt{2} \tan \beta} = \frac{\sqrt{1.5}}{\sqrt{2} \cdot \sqrt{3}} = \sqrt{\frac{1.5}{6}} = \sqrt{\frac{1}{4}}$$

$\gamma = 63.43^\circ$